

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

A.O.A., *et al.*,)
Plaintiffs,) Case No. 4:11-cv-00044-CDP
vs.) (CONSOLIDATED)
THE DOE RUN RESOURCES)
CORPORATION, *et al.*,)
Defendants.)

**DEFENDANTS' REPLY IN SUPPORT OF MOTION TO EXCLUDE THE PROFFERED
OPINION TESTIMONY OF PLAINTIFFS' EXPERT WITNESS JILL E. RYER-
POWDER, Ph.D., UNDER RULE 702 AND *DAUBERT***

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	PLAINTIFFS HAVE FAILED TO MEET THEIR BURDEN UNDER <i>DAUBERT</i> AND RULE 702 TO SHOW THAT DR. RYER-POWDER IS QUALIFIED AND THAT HER TESTIMONY IS RELIABLE AND RELEVANT TO THE FACTS OF THE CASE	2
A.	Dr. Ryer-Powder's Specific Causation Opinions are Inadmissible	2
B.	Dr. Ryer Powder's Methodology is Inherently Unreliable	4
1.	Dr. Ryer-Powder disregards potential alternative sources of Plaintiffs' alleged exposure to lead and arsenic	5
2.	Dr. Ryer-Powder's method for determining background lead levels is unreliable	6
3.	Dr. Ryer-Powder's risk assessment opinions are unreliable	8
4.	Dr. Ryer-Powder's methodology for estimating Plaintiffs' alleged sulfur dioxide exposures and associated risk of injury is unreliable.....	10
5.	Dr. Ryer-Powder makes numerous other errors	12
C.	Dr. Ryer-Powder's Opinions Regarding Injuries Plaintiffs Have Not Experienced or That are Not Actionable are Irrelevant	13
D.	Dr. Ryer-Powder's Opinions are Inadmissible Bolstering.....	14
III.	CONCLUSION.....	15

TABLE OF AUTHORITIES

Cases	Page(s)
<i>Arias v. DynCorp</i> , 928 F. Supp. 2d 10 (D.D.C. 2013)	3, 4, 12
<i>Bader Farms, Inc. v. Monsanto Co.</i> , No. 16-299, 2019 WL 7019552 (E.D. Mo. Dec. 20, 2019)	12, 13, 14
<i>Barber v. United Airlines, Inc.</i> , 17 Fed. Appx. 433 (7th Cir. 2001)	6
<i>Berry v. City of Chicago</i> , 2020 IL 124999, 181 N.E.3d 679 (Ill. 2020)	14
<i>Buzzard v. Flagship Carwash of Port St. Lucie, Inc.</i> , 669 F. Supp. 2d 514 (M.D. Pa. 2009)	9
<i>C.W. v. Textron, Inc.</i> , No. 3:10 CV 87 PPS, 2014 WL 1047940 (N.D. Ind. Mar. 17, 2014), <i>aff'd sub nom. C.W. ex rel. Wood v. Textron, Inc.</i> , 807 F.3d 827 (7th Cir. 2015)	4, 7, 9
<i>Claar v. Burlington N.R.R.</i> , 29 F.3d 499 (9th Cir. 1994)	5
<i>Daubert v. Merrell Dow Pharms., Inc.</i> , 509 U.S. 579 (1993)	1, 2, 6
<i>Diamond X Ranch LLC v. Atl. Richfield Co.</i> , No. 313CV00570MMDWGC, 2018 WL 2127734 (D. Nev. May 8, 2018)	4, 5
<i>Elam v. Alcolac, Inc.</i> , 765 S.W.2d 42, 208 (Mo. Ct. App. 1988)	14
<i>Junk v. Terminix Intern. Co.</i> , 628 F.3d 439 (8th Cir. 2010)	3, 11, 15
<i>Lauzon v. Senco Prod., Inc.</i> , 270 F.3d 681 (8th Cir. 2001)	5
<i>In re NuvaRing Prods. Liab. Litig.</i> , Case No. 4:08-MD-1964 RWS, No. 4:08-cv-00558-RWS, 2013 WL 12435800 (E.D. Mo. Apr. 10, 2013)	3
<i>Pilliod v. Monsanto Co.</i> , 67 Cal. App. 5th 591 (2021)	4

<i>Rhodes v. E.I. du Pont de Nemours & Co.,</i> 636 F.3d 88 (4th Cir. 2011)	13
<i>Sanchez v. Bos. Sci. Corp.,</i> No. 2:12-cv-05762, 2014 WL 4851989 (S.D. W. Va. Sept. 29, 2014)	8
<i>In Re TMI Litig.,</i> 192 F.3d 613 (3d Cir. 1999).....	9
<i>In re TMI Litig.,</i> 193 F.3d 613 (3d Cir. 1999).....	8
<i>United States v. 1,014.16 Acres of Land, More or Less, Situate in Vernon Cty., State of Mo.,</i> 558 F. Supp. 1238 (W.D. Mo. 1983), <i>aff'd</i> , 739 F.2d 1371 (8th Cir. 1984).....	11
<i>In re Viagra Prods. Liab. Litig.,</i> 658 F. Supp. 2d 950 (D. Minn. 2009).....	3
<i>Williams v. Illinois,</i> 567 U.S. 50 (2012) (Breyer, J. concurring)	11
Other Authorities	
Federal Rules of Evidence Rule 702.....	1, 2, 5
Restatement (Third) of Torts, Liability for Physical & Emotional Harm § 4, cmt. c (2010).....	14

Defendants The Renco Group, Inc., The Doe Run Resources Corporation, D.R. Acquisition Corp., Doe Run Cayman Holdings LLC, Ira L. Rennert, Marvin K. Kaiser, Jeffery L. Zelms, and Albert Bruce Neil (collectively “Defendants”), by and through undersigned counsel, respectfully submit the following reply in support of their motion to exclude the proposed opinion testimony of Plaintiffs’ expert witness, Jill E. Ryer-Powder, Ph.D. (“Dr. Ryer-Powder”), pursuant to Rule 702 of the Federal Rules of Evidence and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993), and its progeny.

I. INTRODUCTION

Defendants’ motion to exclude demonstrated that Dr. Ryer-Powder’s testimony fails to meet the threshold reliability requirements of Rule 702 and *Daubert*. Dr. Ryer-Powder’s testimony should be excluded for four main reasons—each of which Plaintiffs’ opposition fails to rebut.

First, despite Plaintiffs’ insistence that Dr. Ryer-Powder is a “general causation expert,” Doc. No. 1272 (“Opp.”) at 5, her report asserts several opinions on specific causation. Dr. Ryer-Powder is not qualified to offer specific causation opinions, and even if she were, she did not follow the generally accepted methodology to reach such opinions. Dr. Ryer-Powder should not be permitted to offer any specific causation opinions in this case.

Second, Dr. Ryer-Powder’s general causation opinions are unreliable as they are based on a highly flawed methodology. She ignores the relevant data that undermines her conclusions; excludes alternative explanations for Plaintiffs’ exposures in calculating background BLLs; improperly relies on the seriously flawed air modeling of David Sullivan (“Mr. Sullivan”) and modeled BLLs of David MacIntosh (“Dr. MacIntosh”) without making any effort to verify their accuracy; and commits numerous mathematical and other errors. Plaintiffs’ central argument is that these criticisms go to the weight, not the admissibility, of Dr. Ryer-Powder’s testimony. However, Plaintiffs fail to demonstrate how her report meets the reliability requirements of Rule

702 and *Daubert* in the first instance.

Third, Dr. Ryer-Powder improperly proffers gratuitous opinions about injuries no Plaintiff has alleged to have experienced. Plaintiffs do not dispute this. Instead, they argue that this testimony will serve the limited purpose of “of establishing the extent and nature of each Plaintiff’s present injury.” Opp. at 18. Plaintiffs’ attempt to circumvent well-established precedent that a plaintiff must be reasonably certain to develop a future injury for that injury to be actionable fails. Plaintiffs cannot rely on the alleged risk of future injury to bolster their claims of current injury. Dr. Ryer-Powder’s increased risk testimony is irrelevant and should be excluded.

Finally, Dr. Ryer-Powder’s opinions regarding Plaintiffs’ alleged lead exposures are needlessly cumulative of and improperly bolster opinions expressed by other experts.

Defendants’ motion to exclude Dr. Ryer-Powder’s testimony should be granted.

II. PLAINTIFFS HAVE FAILED TO MEET THEIR BURDEN UNDER DAUBERT AND RULE 702 TO SHOW THAT DR. RYER-POWDER IS QUALIFIED AND THAT HER TESTIMONY IS RELIABLE AND RELEVANT TO THE FACTS OF THE CASE

A. Dr. Ryer-Powder’s Specific Causation Opinions are Inadmissible

Defendants’ motion to exclude demonstrated that, to the extent Dr. Ryer-Powder purports to offer specific causation opinions, those opinions must be excluded. Doc. 1211 (“Br.”) at 4-6. In response, Plaintiffs insist that Dr. Ryer-Powder is a “general causation expert.” Opp. at 5. They maintain that she was “not tasked with diagnosing medical conditions in Plaintiffs and determining their specific cause.” *Id.*

And yet, that is precisely what Dr. Ryer-Powder purports to do throughout her report. *See, e.g.*, Doc. 1229-18, Report of Dr. Jill E. Ryer-Powder (“Ryer-Powder Rep.”) at 8 (“Each Plaintiff was exposed to concentrations of arsenic that *directly resulted* in an increased risk of cancer and likelihood of adverse effects to skin, the nervous system, and vascular system.”); at 47 (“The

elevated concentrations of lead, arsenic, and sulfur dioxide to which Plaintiffs were exposed due to emissions from the Complex *directly caused, or directly contributed* to cause adverse health effects in the Plaintiffs.”); at 48 (“Plaintiffs were exposed to harmful concentrations of sulfur dioxide of such a significant degree that the exposures . . . *directly increased* the potential for irritation of the eyes, nose, throat, and respiratory tract and the potential for adverse effects on lung function”). Indeed, she admitted in her rebuttal deposition that “some of [her] opinions [allude] to specific causation”—a fact Plaintiffs’ opposition ignores altogether. *See* Doc. 1211-7, 8/19/20 Dep. at 17:17–18:11.

“General causation is a showing that the drug or chemical is capable of causing the type of harm from which the plaintiff suffers.” *In re NuvaRing Prods. Liab. Litig.*, Case No. 4:08-MD-1964 RWS, No. 4:08-cv-00558-RWS, 2013 WL 12435800, at *5 n.4 (E.D. Mo. Apr. 10, 2013) (citing *Junk v. Terminix Intern. Co.*, 628 F.3d 439, 450 (8th Cir. 2010)). Dr. Ryer-Powder is a toxicologist, not a physician, and is therefore not qualified to diagnose Plaintiffs with any health condition or to offer any expert opinions regarding the specific cause of those alleged conditions in any Plaintiff. *See In re Viagra Prods. Liab. Litig.*, 658 F. Supp. 2d 950, 960 (D. Minn. 2009) (holding that epidemiologist was not qualified to offer a specific causation opinion that Viagra caused the plaintiff’s vision loss because he was “not a medical doctor”).

The cases Plaintiffs cite in their opposition do not support their argument. In *Arias v. DynCorp*, 928 F. Supp. 2d 10 (D.D.C. 2013), the court found that the expert’s opinion that plaintiffs’ exposure “very likely plac[ed] them at a significant increased risk for the development of cancers in the future” was *inadmissible*. *Id.* at 24 (“[A] brief review of the cited studies demonstrates that the plaintiffs have not shown that Dr. Wolfson’s testimony is reliable. For example, the plaintiffs fail to reveal how, based on the studies alone, Dr. Wolfson reached the

conclusion that exposure to the Plan Colombia herbicide increased the plaintiffs' risks for developing non-Hodgkins lymphoma.”). Like the expert in *Arias*, Dr. Ryer-Powder relies only on studies—she has not communicated with any Plaintiff, any Plaintiff's parent, or any Plaintiff's treating physician, nor has she reviewed any Plaintiffs' medical records. Further, *Pilliod v. Monsanto Co.*, 67 Cal. App. 5th 591 (2021) is irrelevant; it is an opinion on a post-trial appeal and does not discuss the admissibility of expert evidence at all. It certainly does not address whether the plaintiffs' toxicologist's testimony was properly classified as general causation testimony, or whether that particular expert was qualified to testify as to specific causation as well. *Id.* at 609. Dr. Ryer-Powder should not be permitted to testify that Plaintiffs' exposure “directly caused” or “directly resulted in” any adverse health outcomes.

B. Dr. Ryer Powder's Methodology is Inherently Unreliable

As Defendants explained in their opening brief, two separate courts have found that Dr. Ryer-Powder's methodology is unreliable. Plaintiffs argue, in conclusory fashion, that “[s]imply because another court excluded Dr. Ryer-Powder's opinion” does not mean this court should. Opp. at 8. Despite Plaintiffs' attempts to distinguish them, however, both cases are instructive here.

In *C.W. v. Textron, Inc.*, No. 3:10 CV 87 PPS, 2014 WL 1047940 (N.D. Ind. Mar. 17, 2014), *aff'd sub nom. C.W. ex rel. Wood v. Textron, Inc.*, 807 F.3d 827 (7th Cir. 2015), the court excluded Dr. Ryer-Powder's testimony regarding increased cancer risk. *Id.* at *5-*11. Specifically, the court noted that Dr. Ryer-Powder “failed to present the full story” relating to studies she purportedly relied upon, *id.* at 6; that her conclusions regarding the effects of exposure at the levels present in the case were “on very flimsy scientific ground,” *id.*; and that while extrapolation by itself might not warrant exclusion, Dr. Ryer-Powder “failed to explain her reasoning for extrapolating **these** results, in **this** case,” *id.* at *9. Further, in *Diamond X Ranch LLC v. Atl. Richfield Co.*, No. 313CV00570MMDWGC, 2018 WL 2127734 (D. Nev. May 8, 2018), the court

concluded that Dr. Ryer-Powder improperly relied on an unreliable witness declaration. *Id.* at *13. Here, too, Dr. Ryer-Powder heavily relies upon the unreliable testimony of others. *See infra* Sections II.B.4., II.D. Both courts' criticisms of Dr. Ryer-Powder's methodology apply with equal force in this case and show that her testimony is inadmissible here as well.

1. Dr. Ryer-Powder disregards potential alternative sources of Plaintiffs' alleged exposure to lead and arsenic

Defendants' motion to exclude established that Dr. Ryer-Powder cherry-picks data and ignores potential alternative sources of lead and arsenic exposure, including the significant historical contamination discussed in reports upon which Dr. Ryer-Powder purports to rely. Plaintiffs argue that Dr. Ryer-Powder was not required to consider alternative sources of exposure, but that she nonetheless did by reviewing the 2005 and 2008 Integral reports. Both arguments fail.

First, Plaintiffs argue that Dr. Ryer-Powder's unreliable method of measuring background lead levels is irrelevant, because she only addresses "(1) whether Plaintiffs were exposed to lead, arsenic, and sulfur dioxide from Defendants' Complex; and (2) whether that exposure alone was sufficient to cause adverse health effects." Opp. at 9. Plaintiffs insist that "[n]either question required her to consider whether Plaintiffs might have also been exposed to lead or arsenic from other sources." *Id.* This argument flies in the face of common sense, basic math, and the law. To opine as to whether exposure from Defendants' Complex alone was sufficient to cause adverse health effects, one must reliably exclude background exposure. *See* FED. R. EVID. 702 advisory committee's note (citing *Claar v. Burlington N.R.R.*, 29 F.3d 499, 502 (9th Cir. 1994)) (noting that, when assessing the reliability of an expert's methodology, courts consider "[w]hether the expert has adequately accounted for obvious alternative explanations"); *Lauzon v. Senco Prod., Inc.*, 270 F.3d 681, 687 (8th Cir. 2001) ("*Daubert*'s progeny provides additional factors such as . . . whether the proposed expert ruled out other alternative explanations"). Dr. Ryer-Powder,

however, makes no attempt to reliably rule out alternative exposures, and, thus, her testimony should be excluded.

Second, Plaintiffs insist that Dr. Ryer-Powder did consider the alternative sources detailed in the Integral reports, such as “manufacturing and mineral processing operations other than the Complex, automobile emissions, plumbing in potable water supplies, lead-based paint, lead solder in cans, lead glazes on clay pottery, and pencils and toys decorated with lead-based paint.” Opp. at 10 (citing Ryer-Powder Rep. at 10). But both Dr. Ryer-Powder’s report and Plaintiffs’ opposition fail to address and rule out the very real and significant exposures not attributable to Defendants, such as those due to resuspension of lead contaminated soil by wind, consumption of food products grown in lead-contaminated soils, inhalation and ingestion of dust from contaminated adobe used in home construction, and lead-based gasoline. *See* Doc. 1211-10, Report of Dr. Teresa Bowers (“Bowers Rep.”) at 6–7. When an expert cherry-picks data and ignores relevant facts, as Dr. Ryer-Powder has done here, that opinion is inadmissible. *See Barber v. United Airlines, Inc.*, 17 Fed. Appx. 433, 437 (7th Cir. 2001) (“Because in formulating his opinion Dr. Hynes cherry-picked the facts he considered to render an expert opinion, the district court correctly barred his testimony because such selective use of facts fails to satisfy the scientific method and *Daubert*.”).

2. Dr. Ryer-Powder’s method for determining background lead levels is unreliable

As discussed in Defendant’s motion to exclude, a significant amount of the lead present in the environment around La Oroya—and the resulting elevated BLLs—is attributable to decades of historical emissions from the Complex before DRP even acquired it in October 1997. Plaintiffs do not contest that any causation opinion must account for the background BLLs in La Oroya absent any lead emissions from DRP. Instead, they argue that Dr. Ryer-Powder’s reliance on two studies from areas with no history of lead contamination was reliable, and that the court should disregard

the fact that her calculations are inconsistent with those of Plaintiffs' other experts. Both arguments fail.

Plaintiffs recognize that, in estimating background BLLs, Dr. Ryer-Powder relied exclusively on two studies conducted in areas not near a smelter or any other lead-related industry. Opp. at 11. They admit that Dr. Ryer-Powder only reviewed two of the five available studies on this issue, all of which were considered by Defendants' expert Dr. Bowers. They have no meaningful response to this fundamental flaw—arguing only that “every study has limitations.” *Id.* But “close enough” is not sufficient to satisfy *Daubert*’s reliability requirements. *Cf. Textron*, No. 3:10 CV 87 PPS, 2014 WL 1047940, at *11 (“[T]he analytical gap between the studies that Dr. Ryer-Powder cites and the facts of this case is just too great. Her opinions must therefore be excluded.”). Dr. Ryer-Powder’s decision to disregard the impact of this historical contamination and its continuing effect on BLLs as part of her background BLL analysis not only leads to a significantly inaccurate estimate of background BLLs in La Oroya by design, but also overestimates DRP’s alleged contributions to Plaintiffs’ BLLs.

Plaintiffs also argue that the significant discrepancies between Dr. Ryer-Powder’s background BLL calculation and that of their other expert, Dr. MacIntosh, should be of no consequence to either’s admissibility. Opp. at 12. They insist that experts need not agree to be reliable. *Id.* This is a straw man argument. Defendants do not contend that experts need to come to identical conclusions for their opinions to be reliable. But Plaintiffs ignore that the difference, both in methodology and conclusion, between the two calculations is stark: Dr. Ryer-Powder calculated a background BLL of between 7.1 and 9.6 $\mu\text{g}/\text{dL}$ before ban of leaded gasoline and 8.7 $\mu\text{g}/\text{dL}$ after. Doc No. 1229-18, Ryer-Powder Rep. at 21. Dr. MacIntosh, in contrast, concluded that the background BLL was 5 $\mu\text{g}/\text{dL}$ before the leaded gasoline ban and 2 $\mu\text{g}/\text{dL}$ after. Such a large

disparity is more than a simple disagreement of expert opinion—it is indicative of fundamentally flawed methodology. Dr. Ryer-Powder’s failure to properly calculate the background BLL renders her opinion unreliable, especially given the uncontested importance of establishing background exposure.

3. Dr. Ryer-Powder’s risk assessment opinions are unreliable

As Defendants explained in their motion, Dr. Ryer-Powder’s purported estimates of each Plaintiff’s exposure to arsenic and their associated risk of developing cancer suffer from many methodological flaws. In response, Plaintiffs argue Dr. Ryer-Powder’s risk assessment opinions need not have “the best foundation,” so long as they are based on “valid reasoning and reliable methodology.” Opp. at 13 (quoting *In re TMI Litig.*, 193 F.3d 613, 665 (3d Cir. 1999)). However, Dr. Ryer-Powder’s risk assessments are based on neither valid reasoning nor reliable methodology.

First, Plaintiffs argue that Dr. Ryer-Powder was not required to consider urinary arsenic studies, because her reliance on air modeled levels is scientifically valid. Opp. at 12-13. Plaintiffs misconstrue Defendants’ argument. It is not just her reliance on modeled air levels, which are less accurate than urine arsenic levels in assessing the health effects of chronic exposure,¹ that render her risk assessment opinions unreliable. It is also, and perhaps more importantly, her failure to consider several urinary arsenic studies in the La Oroya area, including a sample from one of the Plaintiffs. All of these samples were “below regulatory levels and are not expected to be associated with adverse health effects.” Doc. 1211-11, Report of Dr. Barbara Beck (“Beck Rep.”) at 29. An expert’s “failure to address . . . contrary data renders [the opinion] inherently unreliable.” *Sanchez v. Bos. Sci. Corp.*, No. 2:12-cv-05762, 2014 WL 4851989, at *11 (S.D. W. Va. Sept. 29, 2014)

¹ See, e.g., “Arsenic Exposure from Drinking Water and Urinary Metabolomics: Associations and Long-Term Reproducibility in Bangladesh Adults,” available at <https://pubmed.ncbi.nlm.nih.gov/29329102/> (using urinary arsenic levels to characterize chronic exposure); “Evaluation of a Physiologically Based Pharmacokinetic (PBPK) Model for Inorganic Arsenic Exposure Using Data from Two Diverse Human Populations,” available at <https://pubmed.ncbi.nlm.nih.gov/30024383/> (same).

(expert testimony inadmissible when report failed to account for contrary publications because “a reliable expert would not ignore contrary data”); *Buzzerd v. Flagship Carwash of Port St. Lucie, Inc.*, 669 F. Supp. 2d 514, 523 (M.D. Pa. 2009) (finding that expert’s “failure to reassess his opinion in light of actual test results is ‘the antithesis of good science’”) (quoting *In Re TMI Litig.*, 192 F.3d 613, 676 (3d Cir. 1999)). Dr. Ryer-Powder’s failure to consider available data that contradicts her opinion renders her opinions unreliable.

Plaintiffs also argue that it was “entirely appropriate” for Dr. Ryer-Powder both to (1) rely upon the EPA’s Regional Screening Level (“RSL”) for arsenic, and (2) to use the RSL’s regulatory standards to calculate Plaintiffs’ individual cancer risk. Plaintiffs are wrong. First, Plaintiffs do not explain the relevance of these U.S.-based values to the exposures of these Plaintiffs in La Oroya. Second, even if these standards were applicable to Plaintiffs’ circumstances—which they are not—Dr. Ryer-Powder inappropriately uses these generic regulatory benchmarks to calculate individual risk. Indeed, Plaintiffs recognize that reliance on regulatory standards cannot be used to establish general causation. Opp. at 14. Yet that is precisely what Dr. Ryer-Powder does in her report: she uses the RSL regulatory benchmark as the foundation of her risk assessment calculations. *See* Doc. 1229-18, Ryer-Powder Rep. at 32 (basing her individual cancer risk calculations on the RSL estimate of 0.00065 ug/m³ for a 30-year period). As the court ruled when excluding her testimony in *Textron*, “reliance on regulatory standards . . . is an improper basis for an expert opinion, for mere exposure to toxins in excess of regulatory levels is insufficient to establish causation.” *Textron*, 2014 WL 1047940, at *5.

Further, Plaintiffs do not rebut Defendants’ argument that Dr. Ryer-Powder’s calculation of the total cancer risk for the population of La Oroya is flawed. Opp. at 15. They argue that her reliance on an outdated study goes to the weight, rather than the admissibility, of her report. *Id.*

But it is not just that the model is outdated—the methodology, upon which Dr. Ryer-Power bases her own calculations, is now known to be unsound. Dr. Ryer-Powder bases her calculations on an outdated default approach: a linear dose-response relationship. However, “based on a more current understanding of the carcinogenic process, many scientists today have concluded that this [linear dose-response] model is likely to overestimate cancer risk for many chemicals.” Doc. 1211-11, Beck Rep. at 51.

Finally, this is not the only foundational flaw in Dr. Ryer-Powder’s total cancer risk calculation. She also makes a fundamental mathematical error by adding together two different types of risk. Specifically, Dr. Ryer-Powder adds (i) the background risk of developing cancer for Peru, which she characterizes as the “risk of getting cancer in Peru before age 75,” and (ii) risk estimates previously calculated by Integral. Doc 1229-18, Ryer-Powder Rep. at 31. The former is a “population-based risk, which is based on cancer incidence,” while the Integral “risk” estimate is based on a regulatory risk assessment paradigm. Doc. 1211-10, Bowers Rep. at 36. In a given year, any La Oroya resident who had an increased cancer risk would have already been included in the cancer incidence rate for the whole country. Thus, Dr. Ryer-Powder double counts any arsenic-associated cancer risk in La Oroya.

4. Dr. Ryer-Powder’s methodology for estimating Plaintiffs’ alleged sulfur dioxide exposures and associated risk of injury is unreliable

Dr. Ryer-Powder’s assessment of Plaintiff-specific sulfur dioxide exposures and concomitant risks of injury are also unreliable because her assessment relies entirely on Mr. Sullivan’s flawed air modeling and outdated publications. Plaintiffs argue that Dr. Ryer-Powder should be permitted to rely on Mr. Sullivan’s work, and that her reliance on outdated publications and failure to consider more recent studies do not render her opinion inadmissible. Opp. at 15-16.

First, Plaintiffs do not dispute that if Mr. Sullivan’s air modeling and sulfur dioxide

testimony is excluded or limited, Dr. Ryer-Powder’s testimony regarding her sulfur dioxide assessment should be excluded or limited as well. *See Junk*, 628 F.3d at 449. Still, Plaintiffs maintain that Dr. Ryer-Powder’s complete reliance on Mr. Sullivan’s deeply flawed air modeling—without taking any steps to verify his work—is perfectly acceptable. Opp. at 16.

Plaintiffs’ argument misses the mark. This is not a case where an expert simply “rel[ied] on the technical statements and results of other experts to form [her] own opinions,” Opp. at 16 (quoting *Williams v. Illinois*, 567 U.S. 50, 89 (2012) (Breyer, J. concurring)), or where an expert used another’s opinion as “background material,” *id.* (quoting *United States v. 1,014.16 Acres of Land, More or Less, Situate in Vernon Cty., State of Mo.*, 558 F. Supp. 1238, 1242 (W.D. Mo. 1983), *aff’d*, 739 F.2d 1371 (8th Cir. 1984)). Dr. Ryer-Powder bases her sulfur dioxide exposure assessment entirely on Mr. Sullivan’s flawed air modeling. *See* Doc. 1229-18, Ryer-Powder Rep. at 44–45 (using Mr. Sullivan’s air modeling to estimate Plaintiffs’ SO₂ exposure); *id.*, Doc. 1211-6, 4/5/19 Dep. at 136:7–19 (acknowledging that she made no calculations but that the “values are again pulled off of Mr. Sullivan’s tables”). And yet Dr. Ryer-Powder took no steps to verify or validate the reliability of Mr. Sullivan’s work. *Id.* at 53:22–54:2.

Second, Plaintiffs maintain that Dr. Ryer-Powder’s reliance on the outdated 1998 Agency for Toxic Substances and Disease Registry (“ATSDR”) Toxicological Profile for Sulfur Dioxide goes to the weight, and not the admissibility, of her report. Opp. at 16. However, it is not just that Dr. Ryer-Powder relied upon an outdated publication to reach her conclusions—she also failed to cite or even consider the much more recent study that directly undercuts her opinions. *See* Doc. 1211-11, Beck Rep. at 52 (explaining the EPA’s 2017 Integrated Science Assessment for Sulfur Oxides concluded that there was insufficient or inadequate evidence to infer a causal relationship between long-term sulfur dioxide exposures and chronic respiratory effects). Her reliance on

outdated publications coupled with her refusal to consider more recent, contradictory studies renders her opinion unreliable. *Arias*, 928 F. Supp. 2d at 25 (D.D.C. 2013) (excluding expert's opinion where he failed to "explain why he decided to credit [favorable] results and dismiss [contrary] results regarding non-Hodgkin lymphoma").

5. Dr. Ryer-Powder makes numerous other errors

Defendants' motion to exclude highlighted Dr. Ryer-Powder's numerous calculation errors, errors in applying various assumptions, and input errors. Plaintiffs do not address the report's myriad mistakes and faulty assumptions. They do not dispute that she incorrectly stated that Integral used an inhalation unit risk in their arsenic risk assessment, Doc. 1211-6, 4/5/19 Dep. at 100:1–19; she struggled to explain how Integral used relative absorption factors and incorrectly described a relative absorption factor as corresponding to lung absorption even though it refers only to absorption in the gastrointestinal system, *id.* at 102:2–103:18; and, when asked about converting sulfur dioxide concentrations from parts per million ("ppm") to $\mu\text{g}/\text{m}^3$, she was unable to recall the basic equation. Nor do they address the incorrect and inconsistent assumptions that are built into Dr. Ryer-Powder's cancer risk assessment, the errors she made in converting sulfur dioxide concentrations from ppm to $\mu\text{g}/\text{m}^3$, or the incorrect receptors assigned to multiple Plaintiffs. *See* Br. at 15–16. Plaintiffs argue only that Dr. Ryer-Powder's numerous mathematical and methodological errors should be a question for the jury. Opp. at 16–17.

But these errors are not sporadic mistakes that could be pointed out to a jury—they pervade Dr. Ryer-Powder's report and opinions. Dr. Ryer-Powder has repeatedly demonstrated that she does not understand several key concepts and terms that a qualified risk assessor should know. These errors in their totality demonstrate a level of carelessness in Dr. Ryer-Powder's work that is inconsistent with the work of an expert in her field.

Plaintiffs' opposition relies on *Bader Farms, Inc. v. Monsanto Co.*, No. 16-299, 2019 WL

7019552 (E.D. Mo. Dec. 20, 2019). That case is inapposite. There, the plaintiffs' expert issued an additional report to correct the initial mistakes. *Id.* at *4-5, 6. The defendants argued the corrected report did not qualify as proper supplemental or rebuttal report, because it was improperly used to change the expert's analysis. *Id.* at *6. The court disagreed, finding defendants' arguments regarding the corrected report were better left to the factfinder. *Id.* Here, Dr. Ryer-Powder has not corrected *any* of the mistakes and incorrect assumptions in her report. These errors and flaws, individually and in the aggregate, demonstrate without a doubt that Dr. Ryer-Powder's methodology is unreliable and her opinions inadmissible.

C. Dr. Ryer-Powder's Opinions Regarding Injuries Plaintiffs Have Not Experienced or That are Not Actionable are Irrelevant

As explained in Defendants' motion to exclude, Dr. Ryer-Powder proffers opinions about a long list of physical conditions that no Plaintiff alleges (e.g., injuries related to kidneys (including "tubular dysfunction"), bones (including osteoporosis), or immune systems). Dr. Ryer-Powder opines further that Plaintiffs' alleged exposure to arsenic has increased their likelihood of developing cancer and certain non-cancer conditions related to the skin, vascular system, and nervous system. Plaintiffs do not dispute that Dr. Ryer-Powder fails to conclude that any Plaintiff is more likely than not to develop any particular cancer or non-cancer condition as a result of arsenic exposure. Instead, Plaintiffs argue that she need not demonstrate that any Plaintiff is more likely than not to develop any particular condition, because this testimony will be offered "for the limited purpose of establishing the extent and nature of each Plaintiff's present injury." Opp. at 18.

But Plaintiffs cannot use an alleged increased risk of future injury to bolster their present injury arguments because there is *no present manifestation* of the increased risk. Courts have rejected similar arguments. For example, in *Rhodes v. E.I. du Pont de Nemours & Co.*, 636 F.3d 88, 95 (4th Cir. 2011), the plaintiffs argued that an increased risk of future injury satisfied their

injury requirement. The court rejected this argument, finding that an increased risk of future injury could not establish a present injury where there was “no evidence of a detrimental effect to the plaintiffs’ health that actually has occurred or is reasonably certain to occur due to a present harm.” *Id.* at *95. Similarly, in *Berry v. City of Chicago*, 2020 IL 124999, ¶ 37, 181 N.E.3d 679 (Ill. 2020), the plaintiffs claimed that the City had put them at an increased risk of adverse health effects from lead leaching into residential water supplies. *Id.* at 685. The court held that “an increased risk of harm is not an injury.” *Id.* at 689 (quoting Restatement (Third) of Torts, Liability for Physical & Emotional Harm § 4, cmt. c (2010)). Thus, where a plaintiff alleges only an increased risk of harm, untethered from any “*actual or realized harm*,” there is no cognizable injury. *Id.* at 689–99 (emphasis added).

There is simply no evidence that any Plaintiff is suffering from any current injury that is indicative of an increased risk of developing non-cancer related conditions as a result of arsenic or sulfur-dioxide exposure. The same is true of Plaintiffs’ claim for increased risk of cancer—no Plaintiff has alleged any pre-cancerous condition or offered any evidence of “some biological manifestation from which the anticipated cancer is reasonably certain to occur.” *Elam v. Alcolac, Inc.*, 765 S.W.2d 42, 208 (Mo. Ct. App. 1988). Permitting Dr. Ryer-Powder to testify about an alleged increased risk of disease that is completely unconnected to any present injury would frustrate the “long-standing and primary purpose of tort law[, which] is not to punish or deter the creation of this risk but rather to compensate victims when the creation of risk tortiously manifests into harm.” *Berry*, 2020 IL 124999, ¶ 33, 181 N.E.3d at 688. It would also create an unworkable standard for the finder of fact. *Id.* For these reasons, Dr. Ryer-Powder’s opinions on increased risk are irrelevant and fail Daubert’s “fit” requirement.

D. Dr. Ryer-Powder’s Opinions are Inadmissible Bolstering

Defendants’ motion to exclude shows that many of Dr. Ryer-Powder’s opinions are

needlessly cumulative of and improperly bolster the opinions of other experts. First, Plaintiffs do not dispute that to the extent Dr. Ryer-Powder's opinions are based on the unreliable opinions of other experts, her opinions fail as well. Because the reliability of Dr. Ryer-Powders models hinges on the reliability of Mr. Sullivan's air modelling and Dr. McIntosh's exposure estimates, if these opinions are excluded, Dr. Ryer-Powder's report must also be excluded. *See Junk*, 628 F.3d at 449.

Second, Plaintiffs argue that Dr. Ryer-Powder's report is not improper bolstering because “[t]here is nothing wrong with one expert relying on another in forming her conclusions.” Opp. at 19. But Dr. Ryer-Powder does not simply reference Dr. Bellinger's and Dr. MacIntosh's opinions. She bases major conclusions on their reports alone, without any additional analysis. For example, Dr. Ryer-Powder's opinions regarding the methods and impacts of lead exposure merely restate Dr. Bellinger's opinions without adding any new perspectives. *Compare* Doc. 1229-18, Ryer-Powder Rep. at 8 (“Lead is a toxic chemical, especially to children. No safe blood lead level has been identified.”) *with* Doc. 1211-12, David Bellinger Report at 15 (“[Plaintiffs' alleged blood lead levels] is now considered to pose health risks to children, and, in fact, no concentration is considered to be ‘safe.’”); *see also* Doc. 1229-18, Ryer-Powder Rep. at 19-20. Similarly, Dr. Ryer-Powder repeats Dr. MacIntosh's opinions that Plaintiffs' exposure to lead contributed to each Plaintiff having BLLs above 10 $\mu\text{g}/\text{dL}$. *Compare* Doc. 1229-18, Ryer-Powder Rep. at 8 *with* Doc. 1229-22, David MacIntosh 6/10/19 Supplemental Report at 35 (“Each Plaintiff was exposed to lead at critical ages in their development that resulted in blood lead levels in excess of 10 micrograms per deciliter.”). Dr. Ryer-Powder's mere repetition renders her opinions inadmissible.

III. CONCLUSION

For the foregoing reasons, Defendants' motion should be granted.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 23rd day of May, 2022, a true and correct copy of the foregoing was filed with the Clerk of the Court through the Court's CM/ECF system, which will affect service on all counsel of record by sending a Notice of Electronic Filing.

/s/ *Geoffrey M. Drake*